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ABSTRACT

In a high school writing class of eight students, a computer was used as a word processor to permit close observation of students as they learned. The class was studied using ethnographic techniques: videotape, audiotape, teacher/researcher journals, student writing, and interviews. Three types of learners emerged: marginal--those who had protracted problems learning to use the word processor and who made little progress in their writing; selective--those who became proficient with word processing but who made little writing progress; and dynamic--those who were successful on both fronts. Because the class was composed of students from various grades and various tracking levels, different socialization factors were perceived as contributing to students' successes or failures. The most obvious conclusion is that the computer's presence in the classroom appears unlikely to negate the powerful influence of the differential socialization of students by social class and its effect on their success or failure in school. Among other options for promoting educational equity, teachers must design and implement specific modifications in their pedagogical approaches to find those most likely to work with the range of students in their classrooms.

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Writing on the Computer:
Marginal, Selective, and Dynamic Learners *

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During the 1983-84 academic year, I introduced the computer used as word processor into my high school writing class of eight students. I designed the course around this new tool to permit the close observation of students as they learned and I studied my class using ethnographic techniques: videotape, audiotape, teacher/researcher journals, student journals, students' writing, and interviews. In the unfolding of events, some things differed from conventional high school writing classes. Some things changed. For some of the students the results appeared to be highly desirable. Yet for others the experience was only somewhat desirable and for still others undesirable. Based on my analysis of the data three types of learners emerged: marginal, those having protracted problems learning how to word process and who made little progress in their writing; selective, those who became proficient with word processing but who made little writing progress; and dynamic, those who were successful on both fronts.

Ethnographic research in the classroom encourages us to look at the details of a teaching/learning situation in relationship to the larger educational context in order to generate hypotheses, new lenses, through which future learning situations may be viewed and, hopefully, more clearly understood. While it does not permit us to answer questions based on cause and effect, observation of the

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participants' patterns of behavior in their relationships with each other and to the tasks at hand stimulates speculation about the nature of this behavior, of these relationships, and about the possible effects of this social interaction on what is being taught and/or learned.

Kathleen Wilcox points out that educational ethnographers have frequently viewed school as the agent of cultural transmission, describing what goes on in classrooms as reflective of the larger society ("Ethnography as a Methodology" 463). Ethnographic studies show American classrooms as places where student performance is constantly evaluated and the ethic of competition promoted; where students are taught, in addition to the formal curriculum, an informal one that includes values, self-images, relationships to peers and authorities, and motivational strategies; and where students are stratified by social class through differential expectations for the lower and lower-middle class students as opposed to the middle and upper-middle class students.

Educators, on the other hand, tend to view their roles as promoting opportunity, creating reform, and instituting change (Wilcox "Ethnography as a Methodology" 463). This was essentially my view of things, as I introduced the computer into my classroom. I hoped it would provide my students with new opportunities to develop as writers, perhaps even as readers and as thinkers.

Yet as Wilcox points out, there are problems in introducing educational change:

The ethnographic work tends to suggest that it is very difficult to introduce significant change into the classroom setting. While a reform may nominally be instituted, strong continuities with past arrangements can be observed, although the ways in which the continuities are expressed may change somewhat

("Ethnography as a Methodology" 469).

What, if any, important changes took place in my classroom, and, what "strong continuities with past arrangements" causing a reemergence of the "old dynamics" could be observed? This paper is an attempt to understand what happened, to put forth speculations about why students responded as they did, and to articulate the significance of what took place.

Changes and Continuities: The Classroom Context

Class Composition. The class size of eight students was smaller than the usual size (for this school) of 28 to 35 students. The class was composed of students from various grades (sophomore-senior) and various tracking levels (from Track III, the lowest level, up to the highest levels: Gifted and Advanced Placement). This was a significant change for students at this school whose classes are normally segregated first by grade and then by track level. As an English teacher in the school I had taught most of the various tracks--I had even taught very small French classes with mixed grades, but I had never taught such a heterogeneous class with tracks and grades all mixed together.

Teaching Methodology. One obvious change from regular classes was the unconventional design of the course. Students were asked only to spend their class time involved in writing-related activities, either on or off the computer, to maintain a daily journal outside of class with their reactions to this learning experience, and to do their best. There were no assignments (at least initially), no deadlines, and no minimum amount of writing required. The class was less rigidly structured and the teaching style was less

teacher-centered than high school classes customarily are.

Instruction was largely focused toward the individual learner rather than the group. Because there were few stated goals and expectations for the students, I thought that they would find the simplicity of this learning environment appealing. However, I failed to account for the fact that the goals and expectations were less well-defined, causing a greater number of expectations to become implicit rather than explicit, complicating rather than simplifying the students' tasks as learners.

Another change was that the teacher was researching the class. In addition to the face-to-face interactions between teacher and student that might be expected in a classroom of this nature (for example the teacher sitting with students at the computer to discuss their writing) there was a constant ongoing evaluation, not via the usual tests or grading of papers, but in the form of teacher/researcher activities: close and prolonged observations including note-taking, videotaping, and interviewing of students. Students might be considered to have been overly attended to at times. But having the teacher be the researcher also meant that at times I was less available to students. This was especially apparent at the start of the year when several students might need help and when research helpers and equipment needed special attention, too.

An obvious continuity was that the teacher was an English teacher of long-standing in the school at the time of the study, the class took place in a classroom during the school day, and the students took the course for credit.

Teaching Equipment. The course centered around learning how to write using microcomputers as word processors. We used Apple II Plus

and IIE computers and The Bank Street Writer word processing program. While some students had had a little exposure to computers (mostly to play games) none had ever word processed before.

Explicit and Implicit Expectations

Clearly the above conditions created new demands on students, but these were placed within the context of the normal expectations created by the school setting. This was still "school," both in the students' minds and in mine. As I became aware of the course expectations, I attempted to make them clear to the students. But many of them, because they were not clearly delineated in my own mind, were implicit, not explicit. It is reasonable to assume that the list that follows is incomplete. However, it represents the kinds of demands, explicit and implicit, that this course made on students. Students were expected:

(1) to be able to learn primarily through demonstration, interaction with the computer program through trial and error, and problem-solving strategies rather than via a more structured, segmented, and graded sequence of instructional activities presented by the teacher;

(2) to be able to admit to themselves and to others when difficulties arose and to seek assistance from classmates or the teacher when necessary;

(3) to be willing to render assistance to other classmates or to the teacher, as the need arose or when asked to;

(4) to be willing to work in a relatively open position as learners and to expose their learning processes in using the computer equipment and in learning to write both to the teacher and to fellow

students; to be willing to make available their writing in its most formative stage while it was still in process, not just when they felt it was a finished product;

(5) to be able to discover and to initiate learning activities for themselves that related to writing and that had meaning for them as learners;

(6) to be able to tolerate ambiguity and uncertainty, especially regarding the idiosyncracies of the new technology; to be a flexible and adaptable learner and to adjust to the unforeseen (to be able to roll with the electronic punches, so to speak);

(7) to be able to tolerate a teaching situation in which the teacher would not always know, or even pretend to know, all of the answers, a teacher who expected to solve problems along with the students;

(8) to be willing to attempt to solve problems, their own or their classmates, by themselves or with the help of others, as they arose within the class;

(9) to be able to acknowledge their accomplishments and to take pride in them;

(10) to be able to maintain interest in their work and gain momentum for continuing it essentially from their own personal response to it rather than to meet a course requirement or to get a grade;

(11) to be able to discern the difference between activities falling within the boundaries of "writing" as opposed to those that are simply "word processing," and to be willing to shift their involvement from word processing to writing as time went on;

(12) to be able to see the value of writing, or to learn to value

it, as a meaningful personal activity.

Internal Versus External Standards

These expectations reveal a classroom environment that demanded a greater degree of learner independence, since there were initially few teacher-created activities; self-reliance, an "I can do it" philosophy; and inner-control, in order to appropriately regulate one's behavior in terms of the course goals, than traditional classrooms. Paradoxically, it also demanded the interdependence of the participants, the ability to work one on one with one's peers and with the teacher in order for students to be successful learners. The focus of the learning situation shifted from the more usual teacher-dominated classroom, where tasks to be done and information to be learned is meted out according to some pre-established sequence and for a pre-determined reward or punishment (i.e. grade), to a more equalitarian, student-centered classroom where students were expected to take primary responsibility in the learning process for initiating their own activities and for assessing their value in learning how to word process and write.

Students were expected to be in charge of their own learning, yet they were not free to do whatever they wished. The overall course goals were a given, having been externally defined by me. Students were free only in so far as they had internalized the course goals and could regulate their activities and behavior in accordance with them.

For the most part, the class had few built-in, externally controlled mechanisms, at least initially. However, I modified this approach to some extent as time went on, based on the student response, building in more external structure to the course in the

form of periodic, teacher-created writing assignments with deadlines. I also assumed the role of disciplinarian in terms of behavior management. I used my authority to intercede when in my estimation students' behavior fell outside the general expectations of the course goals (in other words was not writing or writing-related behavior, was an impediment to others in the room, was disrespectful to me, or was in flagrant violation of the rules of the school).

My basic assumption, so fundamental that it remained largely unexamined throughout a good deal of the study, was that students would find it enjoyable to work in a setting consisting of these new freedoms. I did not at first relate the mounting evidence that some students did not work well in this environment to my deeply ingrained assumption that the class was essentially a good environment for all students to learn in.

Student Behavior Patterns

How did students respond to the expectation they would internalize academic and behavioral standards? The most noticeable reaction was that they were dichotomized by this experience--not once, but twice. First, they divided sharply into those who learned how to word process quickly and those who did not. At the next level, they were polarized into those who became engaged by writing and those who did not.

The marginal students appeared overwhelmed and confused; they seemed to get overloaded by the situation. They found it difficult to learn to word process and to write in this environment. Their conduct was frequently inappropriate, both academically and behaviorally. I found it sometimes necessary to discipline them. The dynamic learners

thrived in this atmosphere; they said they liked the freedom of having no assignments and deadlines. This experience invigorated them and gave them a new enthusiasm for learning and for writing. They discovered effective ways to learn and they liked what they were doing. They managed their behavior appropriately. The selective learners flourished in the beginning, learning to word process successfully, only to fade in the end, engaging in little writing.

In other words the introduction of the computer, the teacher's and students' enthusiasm, the innovative course, and all of the other factors did not work a learning miracle in my class. There were, to use Wilcox's words once again, "strong continuities with past arrangements." Introducing the computer into this context appeared to do little to improve the status quo for the students who traditionally do not do well in school.

I believe that the new demands made by the computer and the course design, in conjunction with other factors such as the research process and the mixed-ability tracks, served to exacerbate the class divisions made by the larger society and mirrored by the school. The hierarchical stratification of students according to their membership in particular academic tracks for the most part prevailed. The students who were accustomed to experiencing alienation in school, who saw themselves as failures, for the most part "failed"; the students who were accustomed to getting by, for the most part, "got by"; and the students who were accustomed to doing well, for the most part, "did well."

But this is a schematic view. It leaves out important details. One student, Chad, who according to the fates, should have been one to "get by," in fact "did well." Another student, Carmen, who appeared

doomed to "fail," persisted until she "got by." The students fated to "do well" did more than just "well." They overcame blocks and anxieties. They became writers. Even the students who "failed," in my opinion, did not fail. They changed and grew in some important ways. They came up against an exceedingly difficult situation for them, struggled, and learned a good deal about working with people, about themselves, about life, about computers, about learning, and about writing.

Although many factors were at work, an important ingredient in students' eventual success in the course, in my estimation, revolved around how they perceived their abilities to succeed. It seems to me the students had learned their past lessons well. They had learned their place in the social order of things, their place in the educational tracking system, and they came into this new learning context primed to take their place there as well. But they faced strong ambivalences. They didn't want to take their assigned place at the bottom of the hierarchy and I didn't want them to either. Together they and I hoped the computer could provide a new way.

But instead of making things easier, the computer sometimes made things harder. At times we were engaged in a trying, human struggle. We couldn't always communicate effectively. There wasn't always enough trust or good will or optimism when it was needed. Although I did not fully understand what was happening at the time, I have come to believe that we were waging a war against some of the most entrenched aspects of our culture.

An Explanation: Differential Socialization

Ethnographic research suggests that children are socialized both in society at large and in our schools according to their social-class background (Wilcox "Differential Socialization 271). Melvin Kohn and others indicate that workers at the lower levels are directed by structures external to themselves: rules, routines, and regulations (Wilcox "Differential Socialization 273-274). Workers at the higher levels, however, are expected to be directed by structures internal to themselves: motivation and judgement corresponding to the needs of the organization but so internalized by the individual that they are produced independently, without the obvious external constraints. Wilcox, in her research on two first-grade classrooms, one in a lower-middle class school and one in an upper-middle class school, concludes that the teachers, the principal, the school district, even the state, participated in creating an environment where students were differentially socialized for their future positions in the world of work based on the school personnel's perceptions of the parents' class level ("Differential Socialization" 269-309).

In the upper-middle class school room the children in Wilcox's study learned skills, values, and attitudes in preparation for their professional roles. They received encouragement, they were taught to think of their present actions as having future consequences, and they learned to internalize both academic and behavioral standards ("Differential Socialization" 289-294). In the lower-middle class schoolroom the children were allowed to do more activities just for fun; they were given a greater latitude to be simply kids. They focused on the present not on the future: they were not expected to

behave in more mature ways in anticipation of future demands, and their discipline was centered on the external sanctions of higher authority--the rules and regulations of teacher and school ("Differential Socialization" 291-295).

If Wilcox's research captures the essence of the differential treatment generally given to students in lower-tracked classrooms versus higher-tracked classrooms--as I believe it does--it seems likely that one of the reasons my students from the lower-tracks had difficulties learning in my classroom was the lack of correspondance between the type of teaching style they were accustomed to and the type of style that I was using. My course design and teaching manner essentially demanded that students internalize the course goals, especially the notion that they were to be independent, self-directed learners and writers. Rather than imposing an explicit, rule-sanctioned structure, with the teacher as the authority, I created an environment that inadvertently expected students to be socialized to an upper-middle class value system, one likely to be at odds with the educational experiences and expectations of some of them, perhaps even with the interactional dynamics found in their homes. In expecting that students could internalize the course standards, academically and behaviorally, I had unwittingly created a situation of unequal opportunity wherein upper-tracked students had a distinct advantage.

Some students had been prepared by school, possibly even prior to school in their familial interactions, to many of the implicit expectations and demands inherent in my course design and teaching style, the upper-middle class values of internalizing the goals of the work place. Accustomed to taking responsibility and initiative for

their development as learners, they were comfortable with and ready to meet the challenges inherent in this class. They worked effectively within it. The prior school experiences of others taught them an essentially opposite, even contradictory, position. They had learned to work within a more externally motivated system, within a structure of explicit rules, rewards, and punishments, in a here-and-now orientation rather than a distant future one. Used to being told what to do and when to do it, my class with all of its supposed freedom made heavy demands on some students to make sense out of an unfamiliar system and impeded them from working effectively within it.

In addition to the teacher's style and expectations, there were other contributing factors that worked to inhibit some students from feeling at home in this environment and positive about their learning and growth. The mixing of tracks placed those accustomed to being on the bottom rung of the hierarchical ladder, the marginal learners, into a position of face-to-face competition, at least in their minds, with the students who outranked them in terms of the socioeconomic status of the larger society and in terms of the school tracking system.

I attempted to minimize competition in the class by eliminating tests and grades and by telling students that they should not worry about how fast someone else was learning. Yet the students, conditioned to view learning as a competition and to compare themselves, continued competing and comparing. The computer with its public display of writing contributed to this competitive effect. It broadcast the struggles of some at the same time it heralded the success of others. I undoubtedly contributed also, although I tried not to. Students noticed, for example, whose journals or parts of

papers I read as representing good examples of writing. Some apparently believed that the cards were stacked against them in this competition, and they perceived the others as intimidating and threatening. Those used to losing out in the academic arena found it difficult to admit to the teacher or the other students that they needed assistance, especially from those who were already perceived to be ahead of them.

The small size of the class and the research activities also appeared to heighten their difficulties; there was no place for them to hide. The teacher constantly observed and wrote things down; the video assistant was continually taping. It must have seemed to some of them that they got caught everytime they did something wrong. As the teacher, I told students that the only way they could learn was to make mistakes and to learn from them. But for some students, making mistakes was demoralizing. They believed that the research was really a trap, meant to catch them, to show they weren't able to learn after all. Their reading difficulties, their problems following directions were exacerbated by their beliefs about not being smart, about not fitting in to this class, about not belonging. All of these factors appeared to work together to create an anxiety-producing situation of such dimensions that for some students their ability to function became seriously impaired.

It appeared to be hard for them to concentrate and to figure things out. They believed they were not getting enough help from me, even when in my opinion they were getting a good deal of it. They may have been trying to communicate, but could not articulate that I was not giving them the right kind of help. I was not giving them a highly structured course, with the material to be learned presented in

small digestible bits, the type of sequential teaching they may have been most familiar with as learners.

They came up with strategies to avoid the punishing confrontation with the computer and with the class, but the more successful they became at avoidance, the less contact they had with the computer and the less opportunity they had to learn. This spiraling situation meant that some students fell farther and farther behind the others in the class competition, reinforcing their fears that they were not smart enough to learn how to use the computer.

If this is an explanation of the marginal learners, what can be suggested as an explanation for the selective learners? Their successful involvement with word processing but their avoidance of writing may be related to similar factors. There seems to have been a lack of fit, but one less serious than for the marginal learners, between some aspects of their expectations and experiences as learners and the demands of the learning environment. There also appears to have been a better correspondance between their existing skills and abilities. They were better as readers and writers and they gave evidence of having more self-confidence in their ability to cope with this class. Their perceptions of themselves as learners seemed hardier, less vulnerable to the assaults made by the process of learning to use the computer hardware and software.

The selective learners apparently had little difficulty with the course expectations and assumptions for working independently and interdependently, at least in so far as the more mechanical and practical activities involved in learning word processing were concerned. They appeared to have internalized the necessary behavioral standards. Once the course focus shifted more concretely

to writing, however, incongruencies developed. These students did not give evidence that they had the same confidence or willingness to expose themselves and their writing in this learning environment as they did when it came to exposing themselves as learners of word processing.

It may be that the process of differential socialization that Wilcox talks about in terms of the lower-middle class and the upper-middle class, also has a middle category, an area between these two, where school socializes students to fit into the requirements for jobs of a middle-middle class category. If so, these students might be expected, like the selective learners, to be socialized to some point midway between the laborer, who is expected to accept the direction of an external authority, and the full professional, who is expected to show independence of judgement. Such students, for example, might be socialized to operate at times from a position of internalized values and motivation, when the demands made on them are in keeping with the values that they have been socialized to, while also accepting the external direction of authority. Whereas socialization for upper-middle class jobs is viewed as preparation for work in highly autonomous professional positions, as doctors or lawyers, socialization for middle-middle class jobs would prepare for work in semi-autonomous positions in structured settings, such as laboratory technicians or legal secretaries.

What does all this suggest for writing teachers who use word processing in their classes? The most obvious conclusion is that the computer's presence in our classrooms appears unlikely to negate the powerful influence of the differential socialization of students by social class and its effect on their success or failure in school.

The computer's revolutionary impact on literacy in education, if it comes, will probably not come effortlessly or easily and may, in fact, require the restructuring of our current educational system, if we expect all students to reap the potential benefits. My study suggests that simply placing computers within the existing structure of classroom and school, even within a classroom of highly motivated students and teacher, is unlikely to promote educational equity.

Having said these things, however, I am not pessimistic about the value of the computer used as a writing tool in the classroom. I believe there are real benefits currently, and potentially even greater benefits down the road, for students, even those who traditionally do not do well in school. While waiting for the macro-level changes that probably must occur for equality to become a reality educationally, I believe there are lower-level changes, modifications in educational approaches that may increase the possibility of success in using the computer as a writing tool among all students.

The ideal course for students must take into account the social dynamics in the classroom. As my findings suggest, when there is a lack of fit between the teaching style and the learning style, the students' ability to learn may suffer. Because of the differential process of socialization, some students may be more comfortable with a teaching structure external to themselves, with the course rules, regulations, and expectations explicitly delineated. These students may respond better to a more highly structured course design. Yet, my study suggests that there were others who ranged along the continuum who responded more positively to greater self-direction and freedom. They learned well and were happier when they were allowed more

autonomy. They benefited from the freedom to initiate their own learning activities and to complete them at their own speed.

What can teachers do? First, they must become aware of the problem and then evaluate their teaching practices to see where they fall on the continuum. After getting some perspective on their own teaching styles (which may be related to their preferences as learners), they need to evaluate their students in terms of their learning styles and, finally, they need to design and implement specific modifications in their pedagogical approaches to find those most likely to work with their students.

This may sound impossible for the busy classroom teacher to do, especially if the students in the class--as mine did--represent a range of styles. Yet it may not be. Rather than attempting the impossible task of changing her teaching style to accommodate each learner's preference, the teacher's role appears to be to provide a structure loose enough for students who benefit from autonomy, yet tight enough for those who prefer to work within explicit guidelines. In addition, rather than changing her style completely to suit her students, the teacher may be able to create a structure whereby there are transitional activities designed to help students gradually adjust to her teaching style. Although introducing change is always unpredictable, success in designing such a course might mean that a greater number of students in a teacher's class meet with success.

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